

SIEMENS

MAMMOMAT 3000

SP

Modification

Modification Instructions

Widening of the Radiation Field

63 99 062

© Siemens AG 1996

The reproduction, transmission or use of this document or its contents is not permitted without express written authority. Offenders will be liable for damages. All rights, including rights created by patent grant or registration of a utility model or design, are reserved.

Register 10

Print No.: RXB7-230.092.07.01.02

Replaces: n.a.

English

Doc. Gen. Date: 09.96

Chapter	Page	Revision
0	1 bis 4	01
1	1 bis 2	01
2	1 bis 4	01
3	1 bis 4	01

1	Prerequisites	1 - 1
	General	1 - 1
	Tools required	1 - 1
	Documents required.	1 - 1
	Parts included	1 - 1
	Time required	1 - 1
2	Exchange of Diaphragm Holder	2 - 1
	Removal.	2 - 1
	Installation of new diaphragm plate	2 - 4
3	Checking the Radiation Field Limitation	3 - 1
	General	3 - 1
	Measuring procedure	3 - 1
	Evaluation	3 - 2
	Alignment radiation field/light field	3 - 2
	Radiation field limitation	3 - 2
	Correction	3 - 3
	Final Procedure	3 - 3

This page intentionally left blank.

General

The upgrade of the diaphragm plates will result in a larger radiation field on the image receptor.

Tools required

- Standard service tools
- Centring cross
- Film bag

Documents required

- Installation and Start-Up Instructions M3000 (RX B7-230.033.01.08.XX)

Parts included

The modification kit (63 96 985) includes the following parts:

Qty	Part	Part No.
1	Diaphragm plate assembly	63 96 894
5	Screw	60 26 439
1	Screw	60 23 402
2	Screw	60 26 264
4	Screw	60 23 444
10	Cable tie	62 21 753
10	Cable tie	90 11 370
1	Documentation (english)	63 99 062
1	Documentation (german)	64 27 350

Spare items for covers:

Qty	Part	Part No.
2	Screw	92 15 914
12	Screw	61 87 897
10	Nut	60 34 706
2	Screw	60 23 428
2	Screw	63 38 649

Time required

Approximately 3 hours for 1 person.

This page intentionally left blank.

Removal

1. System off.
2. Remove the tube head covers; left (1/Fig. 1), right (2/Fig. 1) and front (3/Fig. 1) side.

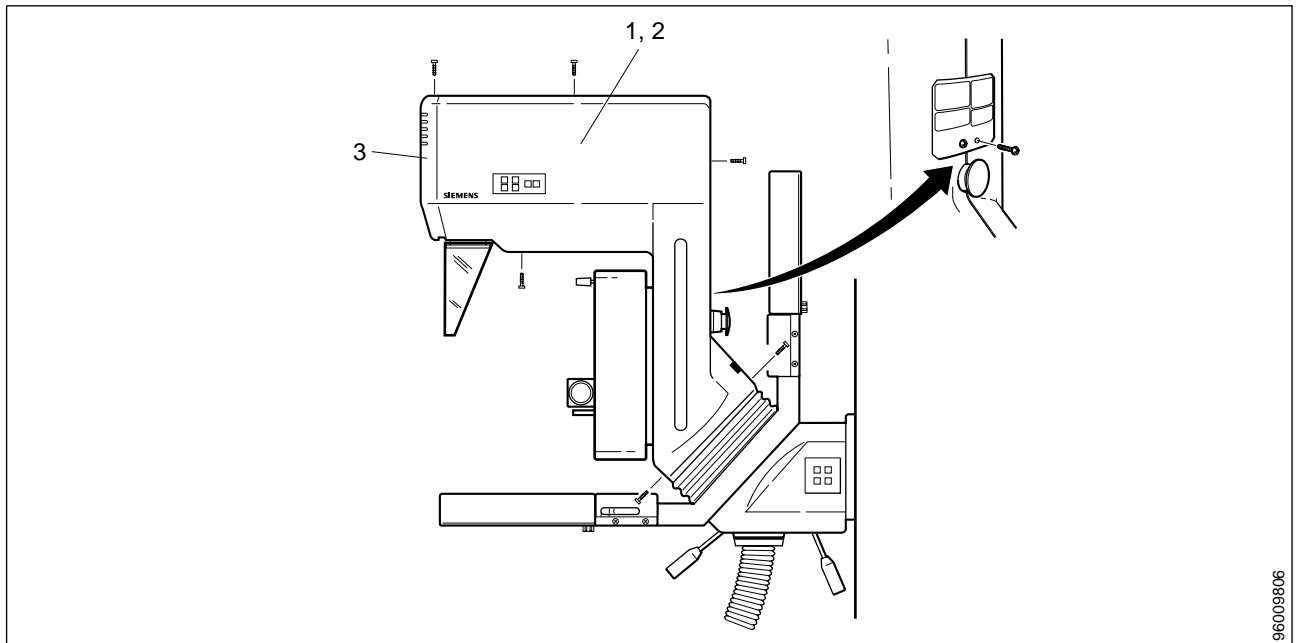


Fig. 1 Removal of tube head covers

3. Remove the collimator cover (1/Fig. 2) by unscrewing the four Allen screws (2/Fig. 2).

NOTICE

Do not remove any other screws than (2/Fig. 2).

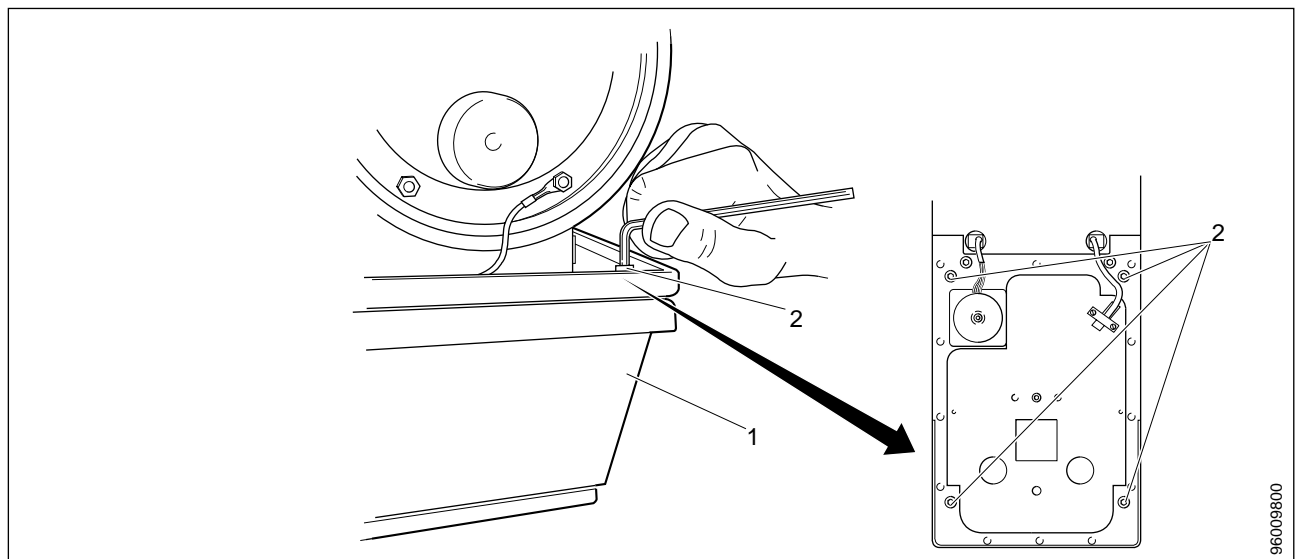


Fig. 2 Removal of collimator cover

4. Let the cover (1/Fig. 2) hang down from the diaphragm holder cable.

NOTICE

Be careful not to damage the filters.

NOTICE

Before cutting any cable tie, mark the position to make re-installation easier.

Cable-tie heads pointing in the wrong direction can prevent the motion of internal diaphragm near end position, caused by contact with the collimator protective cover.

5. Cut and remove the cable tie (4/Fig. 3) holding the collimator lamp cable (3/Fig. 3).

6. Loosen the cable ties along cables from switches (6/Fig. 3), collimator lamp (3/Fig. 3) and electromagnet (7/Fig. 3).

Disconnect switch cable (6/Fig. 3) at X853, collimator lamp cable (3/Fig. 3) at X894, motor M4 cable (3/Fig. 4) at X854 and switch cable (1/Fig. 4) at X852.

Cable (2/Fig. 4) to electromagnet shall remain connected at X878.

7. Unhook the spring (5/Fig. 3) from the mirror (1/Fig. 3).

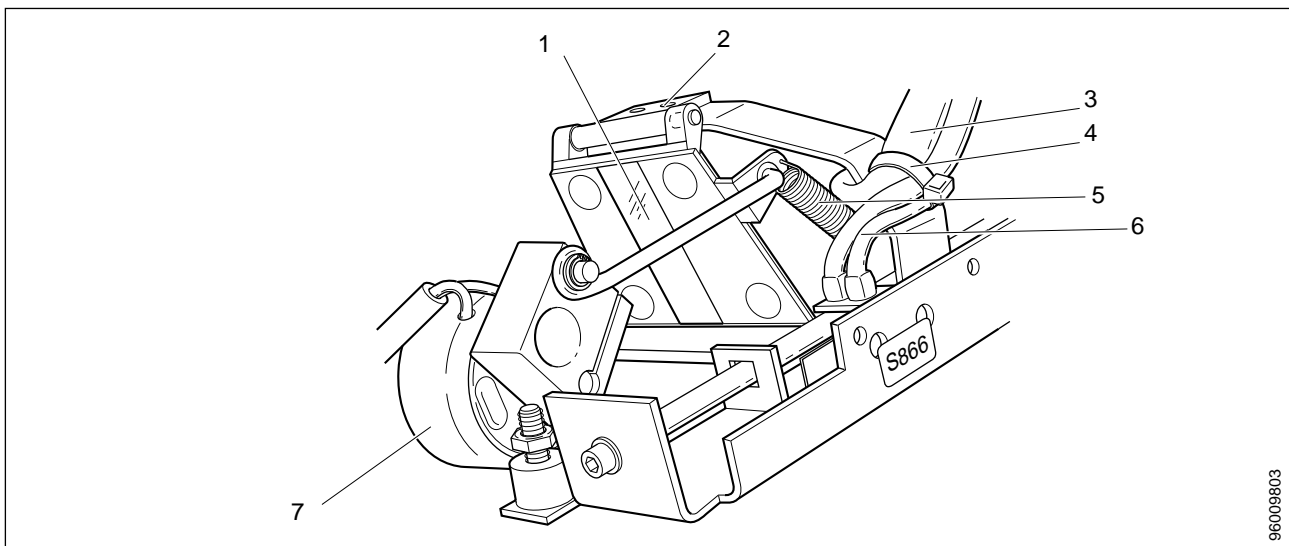


Fig. 3 Diaphragm, from right

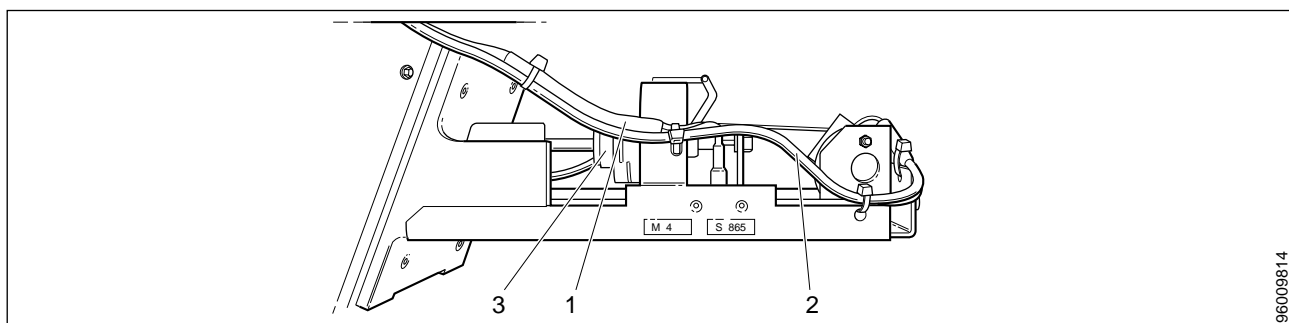


Fig. 4 Diaphragm, from left

8. Remove the four Allen screws (6/ Fig. 5).
9. Remove the diaphragm plate (5/ Fig. 5).

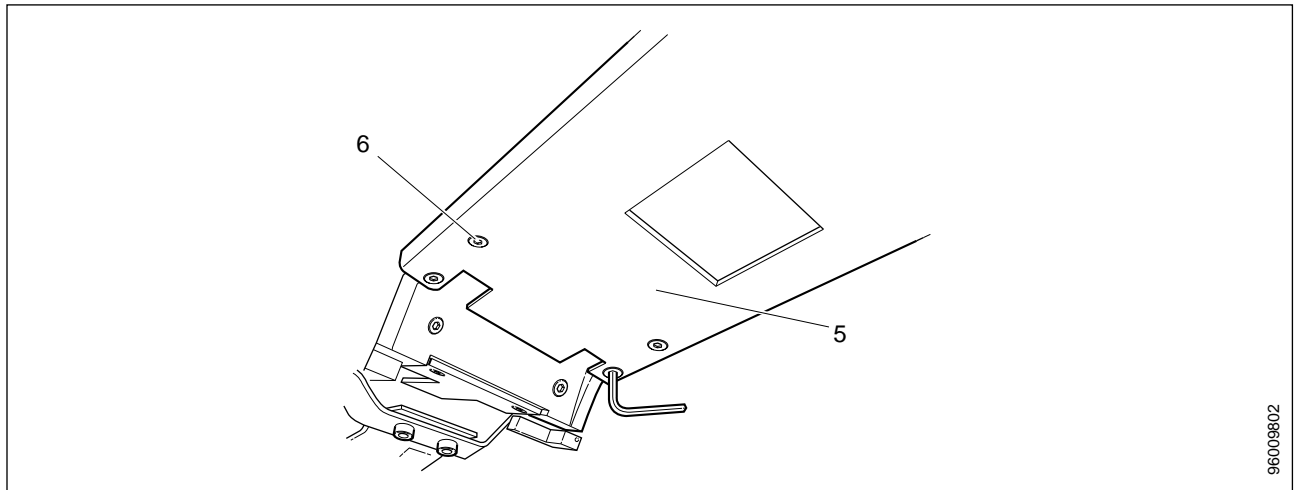


Fig. 5 Removal of diaphragm plate

10. Remove the electromagnet (1/ Fig. 6) by unscrewing the two Allen screws (2/ Fig. 6).

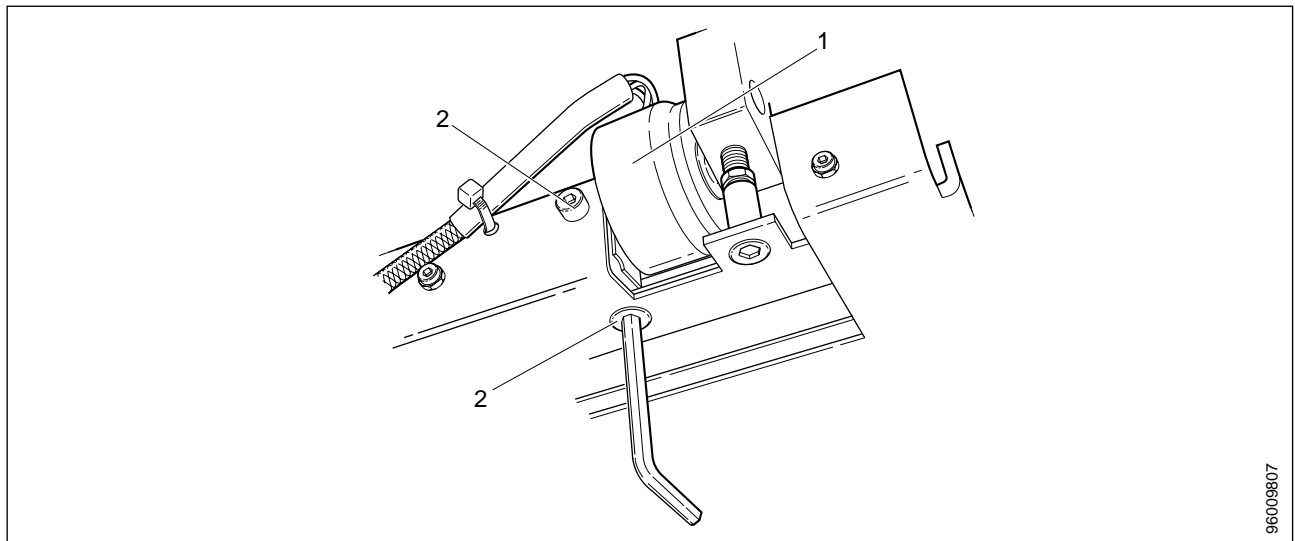


Fig. 6 Removal of electromagnet

NOTICE

Be careful not to damage the mirror.

11. Remove the mirror (1/ Fig. 3) by unscrewing screws (2/ Fig. 3).
12. Let the mirror hang down together with the electromagnet.

Installation of new diaphragm plate**NOTICE****Be careful not to damage the filters.**

1. Install the mirror and electromagnet onto the new diaphragm plate assembly (63 96 894).
2. Lay cable X894 according to (3, Fig. 3).
3. Install the diaphragm plate using screws (60 26 439).
4. Connect the spring to the mirror.
5. Connect previously removed cables (X852, X853, X854 and X894).
6. Fit the cable ties (62 21 753, 90 11 370) in their original position.
7. System on.
8. Select all anode/filter combinations and check that none of the cables are excessively stretched and that there is sufficient space between the cables and the filter wheel.

General

The nominal width of the radiation field is 248 mm (18 cm x 24 cm table) and 308 mm (24 cm x 30 cm). The field must not extend beyond the front edge of the film-marking label holder (6). On the chest wall side, the radiation field must not extend beyond the film edge by more than 9.5 mm.

The light field must coincide with the radiation field within the following tolerances:

Left edge: ± 6.5 mm

Right edge: ± 6.5 mm

Back edge: ± 6.5 mm

Front edge: ± 6.5 mm

Measuring procedure

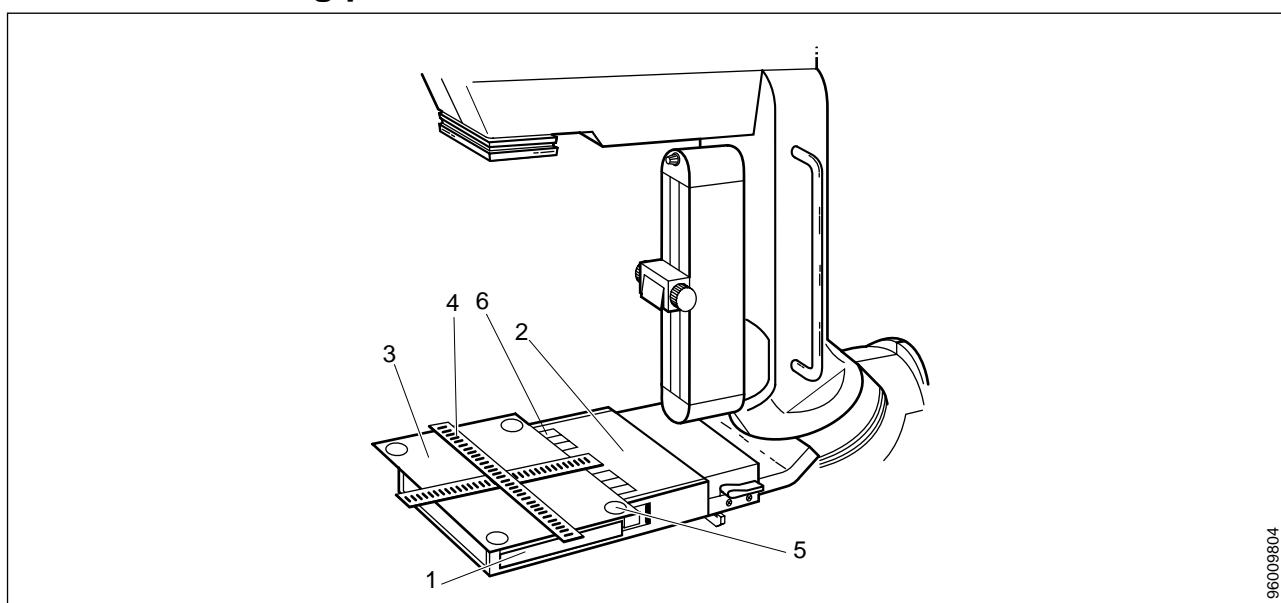


Fig. 1 Checking the radiation field

1. Put film into the cassette (1/Fig. 1). The film shall be centred in the cassette.
2. Insert the cassette into the object table (2/Fig. 1).
3. Place film bag (3/Fig. 1) on the object table. The film bag must extend beyond the chest-wall edge by minimum 10 mm.
If no corresponding film bag is available, you can place two film cassettes side by side on the object table.
4. Place a centering cross (4/Fig. 1) on the film bag or cassettes.
5. Switch on the light field and mark the edges of the light field with four coins (5/Fig. 1).
6. Write down the values of the centering cross corresponding to the side edges of the object table and the front edge of the film-marking label holder.
7. Release exposure (Mo/Mo).
8. Develop exposed films.

Correction

The light field is adjusted sideways with screw (1/Fig. 3) and forwards/backwards with screw (2/Fig.3).

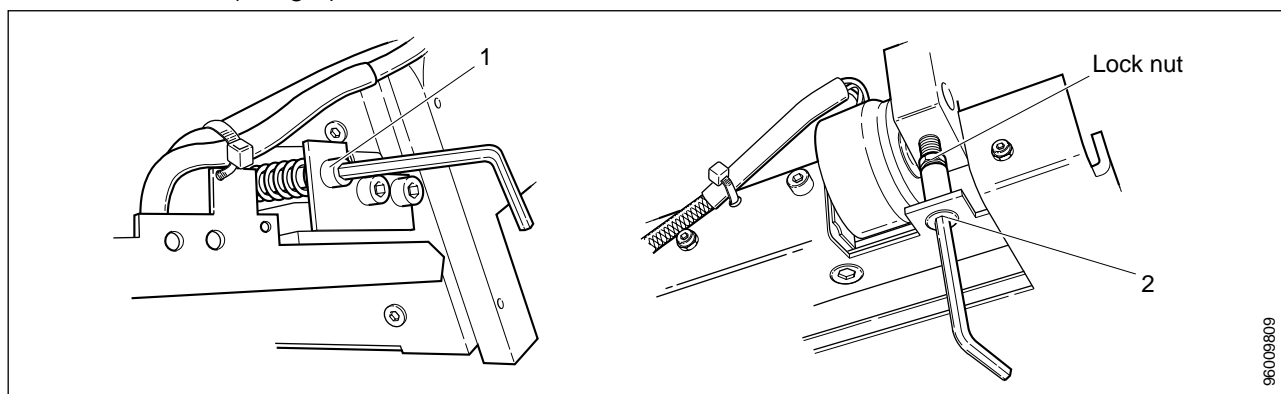


Fig. 3 Adjustment of light field

The radiation field is adjusted according to the following procedure:

1. Loosen the screws (2, 3/Fig. 4) that hold the collimator.
2. Adjust the radiation field in chest wall/stand wall direction (longitudinal adjustment) manually by moving the collimator.
3. For lateral adjustment, see Speed Info RX 168-95 (modification kit 63 82 886).

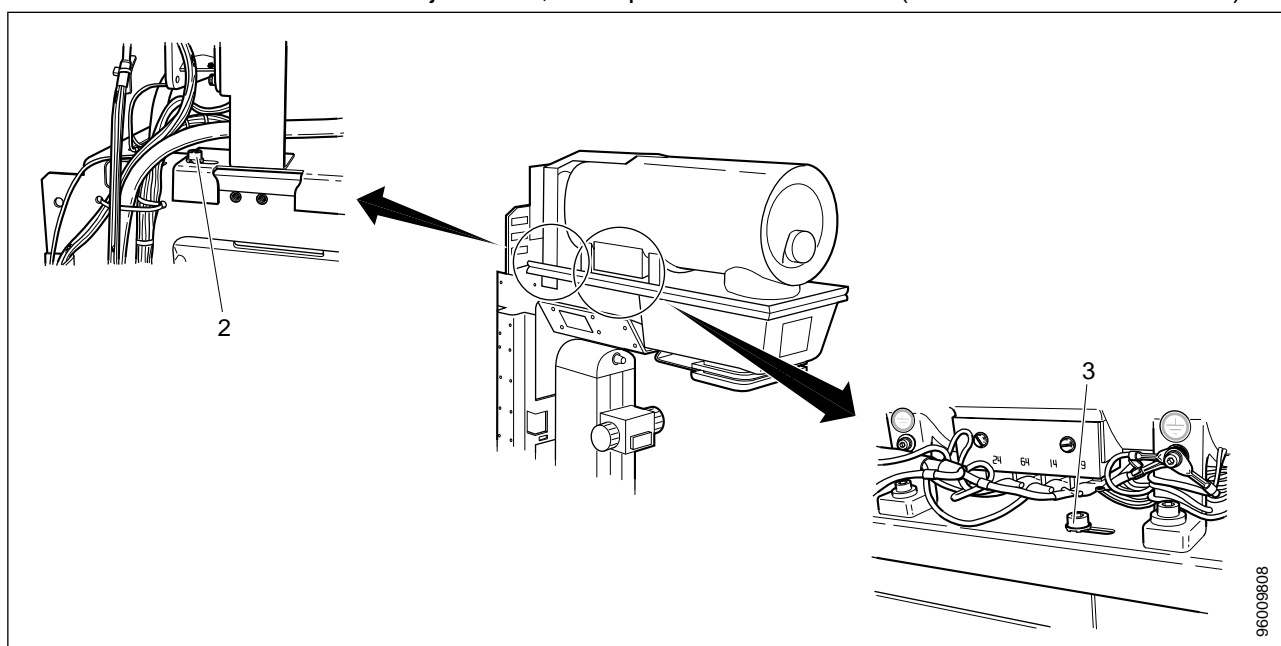


Fig. 4 Adjustment of radiation field

Final Procedure

1. Install the collimator covers.
2. Install the tube head covers.

This page intentionally left blank.